Amendments to the Claims:

Claims 1 – 2, 7, 18 and 21 are currently amended. Claims 3, 6, 15 – 17, 22 and 31 – 36 are previously presented. Claims 4 – 5, 8 – 14, 19 – 20 and 23 – 25 are original. Claims 26 – 30 are cancelled. No new matter is added by these amendments. Consideration of all amendments is respectfully requested.

Listing of Claims:

Claim 1 (currently amended): A multi-pulse peak-hold device utilized to acquire an optical output power level of a laser diode in an optical recording apparatus, the optical recording apparatus having a photodiode for generating a sensed power level signal according to the optical output of the laser diode, the multi-pulse peak-hold device comprising:

a peak-hold circuit comprising a first input for receiving and holding the sensed power level signal, a second input for receiving a reset signal, and an output for a peak voltage signal; and

a sample and hold circuit comprising a first input for receiving the peak voltage signal, a second input for receiving a sample and hold signal, and an output for a held power level signal utilized by the optical recording apparatus to adjust the optical output power of the laser diode;

wherein after a predetermined time period, the optical recording apparatus issues the sample and hold signal causing the sample and hold circuit to sample and hold the peak voltage signal, then the optical recording apparatus issues the reset signal to reinitialize the peak-hold circuit; and

an output signal from the sample and hold circuit is adjusted by multiplying the output signal from the sample and hold circuit with a proportional constant to generate a multiplied output signal, the proportional constant obtained according to an identification procedure, wherein the proportional constant is obtained independently of the multiplied output signal.

Claim 2 (currently amended): The multi-pulse peak-hold device of claim 1 further comprising a switch to control transmission of the sensed power level signal from the photodiode ~~diode~~ to the peak-hold circuit according to a window signal issued by the optical recording apparatus.

Claim 3 (previously presented): The multi-pulse peak-hold device of claim 2 wherein the window signal is issued by the optical recording apparatus to randomly select FPDO sequences from the FPDO pulses train.

Claim 4 (original): The multi-pulse peak-hold device of claim 2 wherein the window signal is issued by the optical recording apparatus according to a predetermined FPDO sequence comprising fixed data patterns.

Claim 5 (original): The multi-pulse peak-hold device of claim 1 wherein the peak-hold circuit acquires and outputs a maximum peak voltage occurring in the sensed power level signal within the predetermined time period.

Claim 6 (previously presented): The multi-pulse peak-hold device of claim 1 wherein the peak-hold circuit acquires and outputs a minimum bottom voltage occurring in the sensed power level signal within the predetermined time period.

Claim 7 (currently amended): An optical recording apparatus having automatic power control for adjusting an optical output power level of a laser diode in the optical recording apparatus, the optical recording apparatus comprising:

a control circuit;

a photodiode comprising an output for outputting an optical power level signal;

a peak-hold circuit comprising an output for holding and outputting a peak voltage signal, a first input electrically connected to the output of the photodiode, and a second input electrically connected to the control circuit for receiving a reset signal from the control circuit;

a sample and hold circuit comprising an output, a first input electrically connected to the output of the peak-hold circuit, and a second input electrically connected to the control circuit for receiving a sample and hold signal;

a reference power level setting unit comprising an output for outputting a reference power level signal;

a feedback controller unit comprising an input and an output, the input of the feedback controller unit receiving a difference between the output of the sample and hold circuit and the reference power level signal;

a laser diode driving unit comprising an input electrically connected to the output of the feedback controller unit and an output electrically connected to the laser diode; and

a laser diode for radiating laser light onto an optical disc;

wherein after a predetermined time period, the control circuit transmits the sample and hold signal causing the sample and hold circuit to sample and hold the peak signal, the control circuit then transmits the reset signal to reinitialize the peak-hold circuit; and

an output signal from the sample and hold circuit is adjusted by multiplying the output signal from the sample and hold circuit with a proportional constant to generate a multiplied output signal, the proportional constant obtained according to an identification procedure, wherein the proportional constant is obtained independently of the multiplied output signal.

Claim 8 (original): The optical recording apparatus of claim 7 further comprising a

low-pass filter electrically connected between the output of the photodiode and the first input of the peak-hold circuit for alleviating noise effect on the output of the photodiode.

Claim 9 (original): The optical recording apparatus of claim 7 further comprising a feed-forward path electrically connected between the reference power level setting unit and the feedback controller unit for speeding up transient response from read status to write status in an APC loop.

Claim 10 (original): The optical recording apparatus of claim 7 further comprising a switch electrically connected between the output of the photodiode and the first input of the peak-hold circuit for controlling transmission of the optical power level signal from the photodiode to the peak-hold circuit according to a window signal transmitted from the control circuit to the switch, wherein the optical power level signal is active to transmit from the photodiode to the peak-hold circuit within the window signal and is inactive outside the window signal.

Claim 11 (original): The optical recording apparatus of claim 10 wherein the window signal is transmitted to the switch only during a predetermined FPDO sequence comprising fixed recording data patterns.

Claim 12 (original): The optical recording apparatus of claim 10 wherein the window signal is transmitted to the switch to select random FPDO sequences from the FPDO pulses train.

Claim 13 (original): The optical recording apparatus of claim 7 wherein the peak-hold circuit acquires and outputs a maximum peak voltage occurring in the optical power level signal within the predetermined time period.

Claim 14 (original): The optical recording apparatus of claim 7 wherein the peak-hold circuit acquires and outputs a minimum bottom voltage occurring in the optical power level signal within the predetermined time period.

Claim 15 (previously presented): An optical recording apparatus having automatic power control for adjusting an optical output power level of a laser diode in the optical recording apparatus, the optical recording apparatus comprising:

a control circuit;

a photodiode comprising an output for outputting an optical power level signal;

a peak-hold circuit comprising an output for outputting a peak voltage signal, a first input electrically connected to the output of the photodiode, and a second input electrically connected to the control circuit for receiving a reset signal from the control circuit;

a sample and hold circuit comprising an output, a first input electrically connected to the output of the peak-hold circuit, and a second input electrically connected to the control circuit for receiving a sample and hold signal;

a reference power level setting unit comprising an output for outputting a reference power level signal;

a feedback controller unit comprising an input and an output, the input of the feedback controller unit receiving a difference between the output of the sample and hold circuit and the reference power level signal;

the laser diode for radiating laser light onto an optical disc;

wherein after a predetermined time period, the control circuit transmits the sample and hold signal causing the sample and hold circuit to sample and hold the peak signal, the control circuit then transmits the reset signal to reinitialize the peak-hold circuit; and

an output signal from the sample and hold circuit is adjusted by multiplying the output signal from the sample and hold circuit with a proportional constant approximately equal to the inverse of the ratio of measured power to real power, the ratio obtained in an identification procedure.

Claim 16 (previously presented): An optical recording apparatus having automatic power control for adjusting an optical output power level of a laser diode in the optical recording apparatus, the optical recording apparatus comprising:

a control circuit;

a photodiode comprising an output for outputting an optical power level signal;

a peak-hold circuit comprising an output for outputting a peak voltage signal, a first input electrically connected to the output of the photodiode, and a second input electrically connected to the control circuit for receiving a reset signal from the control circuit;

a sample and hold circuit comprising an output, a first input electrically connected to the output of the peak-hold circuit, and a second input electrically connected to the control circuit for receiving a sample and hold signal;

a reference power level setting unit comprising an output for outputting a reference power level signal;

a feedback controller unit comprising an input and an output, the input of the feedback controller unit receiving a difference between the output of the sample and hold circuit and the reference power level signal;

a laser diode driving unit comprising an input electrically connected to the output of the feedback controller unit and an output electrically connected to the laser diode; and

the laser diode for radiating laser light onto an optical disc;

wherein after a predetermined time period, the control circuit transmits the

sample and hold signal causing the sample and hold circuit to sample and hold the peak signal, the control circuit then transmits the reset signal to reinitialize the peak-hold circuit; and

the reference power level signal is adjusted by multiplying reference power level signal with a proportional constant approximately equal to a ratio of measured power to real power, the ratio obtained in an identification procedure.

Claim 17 (previously presented): The optical recording apparatus of claim 16 wherein the input to the feedback control unit is adjusted by multiplying the input to the feedback control unit with a proportional constant approximately equal to the inverse of the ratio obtained in the identification procedure.

Claim 18 (currently amended): A method for measuring an optical output power level of a laser diode in an optical recording apparatus, the method comprising:

utilizing a photodiode to generate a sensed power level signal according to the optical output of the laser diode;

utilizing a peak-hold circuit to acquire, hold, and output a maximum voltage of the sensed power level signal;

utilizing a sample and hold circuit to sample and hold the output of the peak-hold circuit after a predetermined time period according to a signal received by the sample and hold circuit from the optical recording apparatus;

reinitializing the peak-hold circuit after the output of the peak-hold circuit has been sampled and held by the sample and hold circuit; and

adjusting an output signal from the sample and hold circuit by multiplying the output signal from the sample and hold circuit with a proportional constant to generate a multiplied output signal, the proportional constant obtained

according to an identification procedure, wherein the proportional constant is obtained independently of the multiplied output signal.

Claim 19 (original): The method of claim 18 further comprising alleviating noise effects on the output of the photodiode utilizing a low-pass filter between the photodiode and the peak-hold circuit.

Claim 20 (original): The method of claim 18 further comprising speeding up the transient response from read status to write status in an APC loop by a feed-forward path from a reference power level setting unit to a feedback controller unit.

Claim 21 (currently amended): The method of claim 18 further comprising controlling transmission of the sensed power level signal from the photodiode ~~diode~~ to the peak-hold circuit with a switch according to a window signal issued by the optical recording apparatus, wherein the sensed power level signal is active to transmit from the photodiode to the peak-hold circuit within the window signal and is inactive outside the window signal.

Claim 22 (previously presented): The method of claim 21 further comprising transmitting the window signal from the optical recording apparatus to the switch to select a random FPDO sequence from a FPDO pulse train.

Claim 23 (original): The method of claim 21 further comprising transmitting the window signal from the optical recording apparatus to the switch during a predetermined FPDO sequence comprising fixed recording data patterns.

Claim 24 (original): The method of claim 18 wherein the peak-hold circuit acquires and outputs a maximum peak voltage occurring in the sensed power level signal

within the predetermined time period.

Claim 25 (original): The method of claim 18 wherein the peak-hold circuit acquires and outputs a minimum bottom voltage occurring in the sensed power level signal within the predetermined time period.

Claims 26 – 30 (cancelled)

Claim 31 (previously presented): An automatic power control system of an optical recording apparatus for adjusting an optical output power level of a laser diode in the optical recording apparatus, said optical recording apparatus further including a photodiode having an output for outputting an optical power level signal; the automatic power control system comprising:

a control circuit;

a peak-hold circuit comprising an output for outputting a peak voltage signal, a first input electrically connected to the output of the photodiode, and a second input electrically connected to the control circuit for receiving a reset signal from the control circuit;

a sample and hold circuit comprising an output, a first input electrically connected to the output of the peak-hold circuit, and a second input electrically connected to the control circuit for receiving a sample and hold signal;

a reference power level setting unit comprising an output for outputting a reference power level signal;

a feedback controller unit comprising an input and an output, the input of the feedback controller unit receiving a difference between the output of the sample and hold circuit and the reference power level signal; and

a laser diode driving unit comprising an input electrically connected to the

output of the feedback controller unit and an output electrically connected to the laser diode;

wherein after a predetermined time period, the control circuit transmits the sample and hold signal causing the sample and hold circuit to sample and hold the peak signal, the control circuit then transmits the reset signal to reinitialize the peak-hold circuit; and

an output signal from the sample and hold circuit is adjusted by multiplying the output signal from the sample and hold circuit with a proportional constant approximately equal to the inverse of the ratio of measured power to real power, the ratio obtained in an identification procedure.

Claim 32 (previously presented): An automatic power control system of an optical output power level of a laser diode in the optical recording apparatus, said optical recording apparatus further comprising a photodiode comprising an output for outputting an optical power level signal; the automatic power control system comprising:

a control circuit;

a peak-hold circuit comprising an output for outputting a peak voltage signal, a first input electrically connected to the output of the photodiode, and a second input electrically connected to the control circuit for receiving a reset signal from the control circuit;

a sample and hold circuit comprising an output, a first input electrically connected to the output of the peak-hold circuit, and a second input electrically connected to the control circuit for receiving a sample and hold signal;

a reference power level setting unit comprising an output for outputting a reference power level signal;

a feedback controller unit comprising an input and an output, the input of the

feedback controller unit receiving a difference between the output of the sample and hold circuit and the reference power level signal; and

a laser diode driving unit comprising an input electrically connected to the output of the feedback controller unit and an output electrically connected to the laser diode;

wherein after a predetermined time period, the control circuit transmits the sample and hold signal causing the sample and hold circuit to sample and hold the peak signal, the control circuit then transmits the reset signal to reinitialize the peak-hold circuit; and

the reference power level signal is adjusted by multiplying reference power level signal with a proportional constant approximately equal to a ratio of measured power to real power, the ratio obtained in an identification procedure.

Claim 33 (previously presented): The automatic power control system of claim 16 wherein the input to the feedback control unit is adjusted by multiplying the input to the feedback control unit with a proportional constant approximately equal to the inverse of the ratio obtained in the identification procedure.

Claim 34 (previously presented): The multi-pulse peak-hold device of claim 1, wherein the proportional constant is approximately equal to an inverse of a ratio of measured power to real power, the ratio being obtained in the identification procedure.

Claim 35 (previously presented): The optical recording apparatus of claim 7, wherein the proportional constant is approximately equal to an inverse of a ratio of measured power to real power, the ratio being obtained in the identification procedure.

Claim 36 (previously presented): The method of claim 18, wherein the proportional constant is approximately equal to an inverse of a ratio of measured power to real power, the ratio being obtained in the identification procedure.